

and tar, in equal parts, and well boiled together, and let it be kept boiling while you are using it; and this will immediately strike and sink (if the wood be totally seasoned) one inch or more into the wood, close all the pores, and make it become exceeding hard and durable, either under or over water. Simple evidently supposes the wood to have been previously well-seasoned.

If timber, whatever its species, be well-seasoned, and be not exposed to alternate dryness and moisture, its durability is great, though from time it is known to lose its elastic and cohesive powers, and to become brittle, if constantly dry. On this account it is unfit, after a certain period, to be subjected to various strains; however, in a quiescent state it might endure for centuries. Dryness will, if carried to an excess, produce this category. The mere moisture it absorbs from the air in dry weather is not sufficient to impair its durability; so, also, timber continually exposed to moisture is found to retain for a very long period its pristine strength. Heat, with moisture, is extremely injurious to it, and in most cases productive of rot, whereof two kinds are the curse of the builder, the *wet* and the *dry* rot, though perhaps there be but little difference between the two. They appear to be produced by the same causes, excepting that the freedom of evaporation determines the former, and an imperfect evaporation the other. In both cases the timber is affected by a fungus-like parasite, beginning with a species of mildew; but how this fungus is generated is still a *verata questio*; all we know is, that its vegetation is so rapid, that often before it has arrived to its height, a building is ruined. From our inquiries on the continent, we believe the disease does not occur to the extent that it does in this country; a fact which we are inclined, perhaps erroneously, to attribute to the use of the timber of the country, instead of imported timber. Our opinion may be fanciful, but there are many grounds on which we think that this is not altogether the case. Our notion is, that our imported timber is infected with the seeds of decay long before its arrival here (we speak of fir more especially), and that the comparative warmth and moisture of the climate bring more effectually the causes of decay into action, especially where the situation is close and confined. Warmth is, doubtless, known to be a great agent in the dry rot, and more especially when moisture co-operates with it; for in warm cellars and other close and confined situations, where the vapour which feeds the disease is not altered by a constant change of air, the timbers are soon destroyed, and become perfectly decomposed.

The lime, and more especially the damp brickwork, which receive the timbers of a new building, are great causes of decay to the ends of them; but we do not think that the regulations of the 19 Car. II., chap. 3, which directed the builders, after the fire of London, to bed the ends of their girders and joists in loam instead of mortar, would, if followed out in the present day, be at all effective in preventing the decay incident to the ends of timbers. Timber in a perfectly dry state does not appear to be injured by dry lime, and, indeed, lime is known to be effectual in the protection of wood against worms.

Nothing is more injurious to the floors of a building than covering them with painted floorcloth, which entirely prevents the access of atmospheric air, whence the dampness of the boards never evaporates; and it is well known that oak and fir posts have been brought into premature decay by painting them before their moisture had evaporated; whilst in the timber and pewing of old churches which have never been painted, we see them sound after the lapse of centuries. Simple, in his "Treatise on Building in Water" notices an instance of some field gates made of the fir of the place, part whereof over the mansion were painted, and had become rotten, while those more distant from the mansion, which had never been painted, were quite sound.

After timber is felled, the best method of preventing decay is the immediate removal of it to a dry situation, where it should be stacked in such a manner as to secure a free circulation of air round it, but without exposure to the sun and wind, and it should be rough squared as soon as possible. When thoroughly seasoned before cutting it into scantlings, it is less liable to warp and twist in drying. The

ground about its place of deposit should be dry and perfectly drained, so that no vegetation may rise on it. Hence a timber-yard may be strewed with ashes, or the scales from a foundry or forge, which supply an admirable antidote to all vegetation. It is thought that the more gradually timber is seasoned, the greater its durability; and as a general rule it may be stated, that it should not be used till a period of at least two years from its being felled, and for joiner's work at least four years. Much, however, is dependent on the size of the pieces. By some, water seasoning has been recommended; by others, the steaming and boiling it; smoking, drying, charring, and scorching have also been recommended. The latter is, perhaps, the best for piles and other pieces that are to stand in the water or in the ground. It was practised by the ancients, and is still in use generally for the posts of park paling and the like.

In Norway, the deal planks are seasoned by laying them in salt water for three or four days, when newly sawed, and then drying them in the sun, a process which is considered to be attended with advantage, but it does not prevent them shrinking. Mr. Evelyn recommended the water seasoning for fir, but we incline to think that gradual dry seasoning is the best method.

Notwithstanding, however, all care in seasoning, when timber is employed in a damp situation it soon decays, and one of the principle remedies against that is good drainage, without which no precaution will avail. It is most important to take care that earth should not lie in contact with the walls of the building, for the damp is quickly communicated in that case by their means to the ends of timbers, and rot soon follows. No expedient to guard against this contingency is so good as what are called air or dry drains, which are areas formed by thin walls round the building, with apertures in the paving laid between them and the principal walls, so as to afford a constant current of fresh air. When the carcass of a building is complete, it should be left as long as possible to dry, and to allow to the timbers what may be called a second seasoning. The modern practice of finishing buildings in the quickest possible period has contributed more to dry rot than perhaps any other cause, and for this the architect has been blamed instead of his employer, whose object is generally to realize letting, or to enjoy occupation of them as early as possible. After, however, the walls and timbers of a building are once thoroughly dry, all means should be employed to exclude a fresh accession of moisture, and delay becomes then prejudicial."

#### NATIONAL ENCOURAGEMENT OF THE FINE ARTS.

We solicit our readers' attention to the following communication:—

SIR,—As her Majesty's Commissioners have postponed the exhibition of historical paintings in oil until 1847, and announced instead, that specimens of fresco painting may be sent to Westminster Hall in 1846,—but observe, *not for public exhibition*,—great uncertainty must now be felt by those artists who have, during the last three years, answered the call upon their profession by the royal commission. The object of thus submitting specimens of fresco can only be to obtain employment in assisting the few selected artists in the execution of their works. Now, it may fairly be asked, seeing that public competition in cartoons and fresco appears to be ended, what is to become of the talent and the time bestowed on innumerable experiments in the difficulties and vexations of fresco painting by the other competitors? Is it fair, is it just towards those artists (many of whom have distinguished themselves, although they be not among the selected few), to suffer this amount of talent to be useless?—for useless it must be, unless some method can be proposed to keep up their practice. Surely after the enthusiasm shown by them in producing so many large works, at a great expenditure of time and money, something should be thought of. Are there no public buildings, no colonnades, no halls available in London, where frescos could be executed? If no better plan can be devised, wall can be built up, and painted on both sides.

Cannot the Government be induced to run up seven or eight hundred feet of wall, built upon public land, for this purpose, and inclosed with shed coverings, such as we constantly see erected for masons and workmen employed on buildings. Were accommodation thus provided for fresco painters, finer works would be produced than any we have yet seen, and no doubt most of the competitors would gladly avail themselves of the opportunity thus afforded. Artists have been so taxed in the late competitions, that it cannot be expected they could enter upon the further expenses of building wall and the proposed temporary coverings, paying also a rent for the ground, and all perhaps without a ray of hope that their efforts would be patronized as nation efforts deserve to be. I do sincerely hope that the competitors will associate for the purpose of historical painting and the improvement of fresco practice, and, if possible, prevail on the proper authorities to grant them ground and materials for some temporary exhibition place, which may have the sanction and patronage of the Queen and the Royal Commission.

Many of your correspondents will be enabled by their experience to suggest improvements on this plan and the mode of accomplishing it; such information will be highly valuable, and assist materially the object proposed.

It is intended at an early opportunity to call a meeting of those artists who have competed in cartoons and fresco during the last three years, when some plan, founded upon the above suggestions will be proposed, and any information your correspondents can afford will be highly esteemed by, Sir, your most obedient servant,

A COMPETITOR.

Communications may be addressed to "B.", Institute of the Fine Arts, Newman-street, Oxford-street.

#### EFFLORESCENCE ON BRICK WALLS.

THE surfaces of new walls, especially those built of bricks, are usually spotted with a white silky efflorescence, of a fine crystalline character. It is also very light and pulverulent; has a cool acidulated, or disagreeable alkaline taste. It has much the appearance of snow, and gives to walls a rather strange and unpleasant look. This downy substance gathers on them very rapidly; but from being soluble, it becomes either melted or blown off by the weathering action of rains or winds; yet periodically accumulates again. This saline efflorescence is produced through a chemical affinity which subsists between the acid of the atmosphere, and the acids and alkali contained in the lime and magnesia in the bricks, as well as in the mortar or cement which is used in bedding and connecting them together. Most brick earths or clays contain about 3½ per cent. of carbonate of lime, and about 3½ per cent. of carbonate of magnesia; but sometimes a large quantity of calcareous matter or chalk is added, in order to improve the character of the bricks which are to be made from it.

The water of the ocean is impregnated with muriate of soda to the extent of about one-thirtieth of its whole quantity; and the waters of many of our mineral springs are also highly impregnated with it, and likewise with a considerable quantity of carbonate of lime. The efflorescence is generally composed of the nitrates of lime, magnesia, and soda; and sometimes of muriate of soda; and from the chemical action already noticed, these nitrates decompose or part from the lime and magnesia in the bricks and mortar or cement, and, by distillation, pass through the pores of the bricks, gathering on their exposed surfaces like spots and streaks of snow. It appears mostly on the surfaces of those bricks which have much chalk mixed with them, and which have not been very much burnt or vitrified. When mortars and cements are made with either sea or mineral waters, they give off, for some time after being used, in consequence of their alkaline character, considerable quantities of this saline efflorescence. It can very easily be washed away; but if it be allowed to crystallise, and be then heated and rubbed over the surfaces of the bricks, filling their pores, it will prevent them to some extent from attracting and absorbing moisture from the atmosphere.

JOHN PHILLIPS.